

Effect of exercise in obese patients with chronic kidney diseases

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Statistical analysis:

Pre and post treatment measures analyzed by Minitab version 18 (LLC headquartered in state college Pennsylvania, USA). All the data presented as the mean \pm SD. An independent t-test was used to compare between the variables of the participants. Paired t-test was used to compare between pretreatment and post treatment values of the physical performance and obesity of both groups, and independent t- test was used to compare between both groups. The significance level was set at $P \leq 0.05$ for all tests.

Results:

60 patients 26 male (43.3%) and 34 female (56.7%). Age between 35 and 60. There is no significant difference between both groups in age $P = 0.708$. Also no significant difference in BMI in both groups 33.8 and 33.96, WC 141.67 and 146.26. WHR 0.91 and 0.92, TUG 24.46 and 28.3, STS 32.7 and 31.8, STS60, 9.13 and 8.13, 6MWD, 246.13 and 215.17, systolic blood pressure 156.3 and 160.5, diastolic blood pressure 85.8 and 84.7, mean blood pressure 115.3 and 118.8, heart rate 76 and 76.3, blood glucose 197.7 and 189.47.

After three months of exercises BMI in both groups 31.7 and 31.8, WC 130.57 and 137.33. WHR 0.85 and 0.88, TUG 18.4 and 21.3, STS 20.9 and 19.5, STS60, 14.6 and 14.2, 6MWD, 343.5 and 338.5, systolic blood pressure 133.8 and 132.0, diastolic blood pressure 75.5 and 72.7, mean blood pressure 92.4 and 105.8, heart rate 76 and 76.3, blood glucose 178.6 and 183.6.

Table (1): pre and post measurements of group1

Item	Pretreatment group 1	Post treatment group 1	T test	P value
BMI (kg/m²)	33.8±1.99	31.7± 2.88	2.72	0.011
Waist circumference(WC) (cm)	141.67±16.39	130.57± 10.22	3.90	0.001
Waist to hip(WHR)	0.91367±0.03409	0.85633± 0.04522	15.58	0.000
Time up and go(TUG) (sec)	24.46±4.023	18.4±2.40	9.51	0.000
Sit to stand test(STS5) (sec)	32.067±3.562	20.867± 3.014	23.67	0.000
STS60 (cycle/min)	9.133±1.167	14.567± 2.096	-15.05	0.000
6minutes walk distance (6MWD) (m)	246.13±17.48	343.50± 22.25	-19.78	0.000
Systolic blood pressure(mm Hg)	156.33±7.76	133.83 ± 5.83	13.88	0.000
Diastolic blood pressure (mm Hg)	85.833±4.170	75.500± 4.798	16.37	0.000
Mean blood pressure (mm Hg)	115.33±7.60	92.40±4.60	16.43	0.000
Heart rate(beat/min)	76.000±2.213	71.567± 1.478	11.41	0.000
Blood glucose (mg/dl)	197.7±3.49	178.57±7.00	11.28	0.000

Table (2) pre and post measurements of group2

Item	Pretreatment group 1	Post treatment group 1	T test	P value
BMI (kg/m²)	33.96±2.55	31.86±2.98	3.58	0.001
Waist circumference(WC) (cm)	146.27±9.58	137.33±10.74	8.36	0.000
Waist to hip(WHR)	0.92600±0.03450	0.88667±0.03633	15.52	0.000
Time up and go(TUG) (sec)	28.3±1.985	21.267±2.434	15.42	0.000
Sit to stand test(STS5) (sec)	31.800±5.346	19.533±4.158	17.45	0.000
STS60 (cycle/min)	8.133±1.137	14.167±1.704	-21.43	0.000
6minutes walk distance (6MWD) (m)	215.17±54.36	338.53±26.22	-10.00	0.000
Systolic blood pressure(mm Hg)	160.50±8.34	132.00±6.38	15.33	0.000
Diastolic blood pressure (mm Hg)	84.667±4.138	72.667±4.097	15.37	0.000
Mean blood pressure (mm Hg)	118.77±6.70	105.83±21.16	3.49	0.002
Heart rate(beat/min)	76.300±1.725	70.367±0.615	19.34	0.000
Blood glucose (mg/dl)	198.47±1.98	183.63±4.71	16.37	0.000

Table (3) post measurements of both groups

Item	Pretreatment group 1	Post treatment group 1	T test	P value
BMI (kg/m²)	31.733±2.888	31.867±2.980	-0.15	0.881
Waist circumference(WC) (cm)	130.57±10.22	137.33±10.74	-2.78	0.009
Waist to hip(WHR)	0.85633±0.04522	0.88667±0.03633	-2.87	0.008
Time up and go(TUG) (sec)	18.400±2.401	21.267±2.434	-5.11	0.000

Sit to stand test(STS5) (sec)	20.867±3.014	19.533±4.158	1.20	0.240
STS60 (cycle/min)	14.567±2.096	14.167±1.704	0.89	0.380
6minutes walk distance (6MWD) (m)	343.50±22.25	338.53±26.22	0.80	0.433
Systolic blood pressure(mm Hg)	133.83±5.83	132.00± 6.38	1.07	0.295
Diastolic blood pressure (mm Hg)	75.500±4.798	72.667±4.097	2.25	0.032
Mean blood pressure (mmHg)	92.40±4.60	105.83±21.16	-3.21	0.003
Heart rate(beat/min)	71.567±1.478	70.367±0.615	4.09	0.000
Blood glucose (mg/dl)	178.57±7.00	183.63±4.71	3.18	0.003